STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Hydrologist **Class Code: 40525**

A. Purpose:

Conducts ground water and hydrologic investigations and studies and compiles results under the direction of a team leader to provide information for inclusion in projects and to develop working knowledge of state and federal laws and regulations governing protection of ground water and hydrologic systems.

B. Distinguishing Feature:

Hydrologists are entry-level positions and work under direct supervision of other staff for a minimum of one year.
Senior Hydrologists are assigned complete research projects and investigations, apply appropriate conditions to permits and clean-up plans, and work under general supervision.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Reviews remedial work plans to determine impact to the environment and human health and reports evaluations to project manager.
   a. Reviews site assessments and hydrogeologic reports.
   b. Investigates contamination incidents and spills that may affect ground water or hydrologic systems.
   c. Researches remedial project activities.
   d. Writes evaluative letters on findings and conclusions to project manager or supervisor.

2. Conducts directed research to support investigations and assessments of ground water and hydrologic systems.
   a. Conducts hydrologic investigations.
   b. Determines movement and availability of ground water.
   c. Determines probable areas of recharge and discharge.
   d. Determines ground and surface water relationships.
   e. Evaluates area hydrogeology.
   f. Researches geochemistry.
   g. Reports findings to project manager or supervisor.

3. Provides technical support to facilitate project implementation and decision-making, and provide up-to-date information.
   a. Updates ground water maps showing quality, quantity, and availability of water.
   b. Reviews construction of monitoring wells and water wells.
   c. Assists with aquifer pumping tests.
      i. Recommends well site locations.
      ii. Applies principles of hydraulics to determine hydraulic conductivity and aquifer characteristics.
   d. Recommends locations for various kinds of wells.
   e. Drafts assigned portions of ground water plans.

4. Participates in the permitting process to ensure compliance with applicable rules and regulations.

a. Reviews permit applications for completion.
b. Investigates conditions at sites to be permitted, and develops recommendations for appropriate permit conditions that will be protective of ground water and hydrologic systems.
c. Conducts routine and compliant inspections of both permitted and non-permitted facilities, and prepares inspection reports.
d. Recommends corrective actions.

5. Performs other work as assigned.

D. Reporting Relationships:

Reports to a Natural Resources Administrator. Does not supervise.

E. Challenges and Problems:

Challenged to apply hydrological principles to actual problems. This is challenging because of the extent of investigation required to determine the most effective techniques and applications for each situation. Further challenged to learn and apply a wide scope of applicable environmental and natural resources management laws and rules, and to be able to explain them to the regulated community and the public.

Problems encountered include applying proper policies, procedures, and standards to work assignments.

F. Decision-making Authority:

Decisions are limited to activities related to work assignments. Unusual situations or circumstances are referred.

G. Contact with Others:

Daily contact with staff for training purposes and to receive work direction. Occasional contact with the regulated community, the public, and consultants when working on assigned projects.

H. Working Conditions:

Works in a typical office environment, on construction sites, and around environmental management facilities; is exposed to varied weather conditions, construction equipment, hazardous materials, infectious bacteria, and physical exertion.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- the principles of precipitation, runoff, stream flow, and ground water;
- measurement of properties of common fluids, and tests on fluids in motion;
- systems for collecting waste water, waste water disposal and treatment processes, solid waste disposal;
- physical, chemical, and biological technologies as they relate to analyses of water quality;
- the basic principles and terminology of data processing;
- human relations sufficient to establish working relationships with coworkers.

Ability to:

- analyze water and waste water and interpret and report on results;
- calculate movement and impact of fluids in a variety of media;
- read and understand technical reports and directives, maps, charts, and related materials associated with hydrologic and hydraulic studies and investigations;
- communicate information clearly and concisely;
- establish and maintain effective working relationships with coworkers.